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ABSTRACT

This document reports on financing vocational education and training (VET) in developing countries. It focuses on different ways that programs are financed, the link between financing and educational practice, and the conditions that govern the effective use of resources. Chapter I examines the use of public tax revenues to finance VET. It identifies some adverse consequences of public financing; highlights the potential for extending use of public revenues through alternatives to block grants; discusses three major issues--locus of control, equity, and vertical and horizontal imbalance; and describes some policy implications. Chapter II examines these approaches to enterprise financing of training: earmarked payroll tax; tax rebate and credit schemes; and the German dual system. Chapter III reviews alternatives to government-financed VET, including training fees, fellowships and loans, and vouchers and tuition tax credits. Chapter IV discusses production for profit and its policy implications. Chapter V examines how international donor assistance is used to finance VET. It addresses characteristics of assistance, limitations accompanying assistance, and policy implications. Chapter VI focuses on diversifying financing. The discussion of limitations and opportunities covers making better use of resources, broadening financial support, and expanding opportunity. Contains 75 references. (YLB)

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discussion

Financing vocational education and training in developing countries

by Dennis R. Herschbach

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Discussion Paper No. 111

Financing of vocational education and training in developing countries: Options and policy issues

By Dennis R. Herschbach

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Training Policy Branch
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Introduction

This study is about financing vocational education and training (VET) in developing countries. It is about the different ways that programmes are financed, about the link between financing and educational practice, and about the conditions which govern the effective use of resources. Policy makers face an era of fiscal constraint. There is a declining ability to finance VET as educational costs rise and budgets grow tighter. The struggle to find resources will continue for some years to come, and policy makers will be challenged to make better use of the diverse resources available to finance vocational education and training.

VET has always been financed through different sources of revenue, although in the past two decades public revenue has played an increasingly important part. But stagnant economic growth coupled with high demand for services has had predictable effects on educational funding. Public educational budgets have decreased in relative and absolute terms. General tax revenues cannot be relied on to finance VET because programme quality cannot be sustained. Alternative ways of financing must be employed by making better use of other resources.

However, the consequences of initiatives to diversify financial resources must be understood. Diversification may mean fundamental changes in government policy, alternative forms of taxation, the devolution of authority and control, and new cooperative working relationships between social partners. Diversification may mean that enterprises themselves assume a greater role in the design and delivery of instruction. In some countries, this fundamental reorientation may be, in fact, the limiting dimension to the use of diverse financial resources.

There is also no optimal way to finance vocational education and training. All alternatives have conflicting impacts on policy, programmes and people. There are limitations that condition the way that funds can be best used. Some of these limitations are at the level of policy. Others relate to the kind of training that can best be provided, the constituency served, and the implementation of programmes. There are ways, nevertheless, to mobilize other sources of financing along with public resources in order to extend opportunity and enhance the quality of VET. Most countries must rely on a combination of financing mechanisms.

It is the relationship between the different financing mechanisms and the accompanying limitations that this study seeks to clarify. Developing countries follow different pathways to human resource development. The structure and dynamics of their economies vary, as does the institutional capacity to finance and implement VET. But the ability to sustain training capacity in whatever form that it takes depends on sound financial strategies. These strategies must be based on an understanding of the limitations and opportunities that the different financing mechanisms present. The purpose of this study is to provide such a perspective.

The first chapter examines the use of public tax revenues to finance VET. This is followed by a chapter on enterprise financing. The use of fees, fellowships and loans, and vouchers is covered in a separate chapter. Production for profit and donor assistance are treated in the next two chapters. The final chapter explores various policy issues. To be sure, governments will continue to finance vocational education and training, but increasingly they will also need to rely on alternative means which reduce reliance on public funds and at the same time enable the share of public money to be used more effectively.

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I. Financing through public revenue

In most countries the public budget for VET is relatively modest. It may not exceed more than ten percent of the total outlay for all forms of publicly supported education. However, the unit cost of VET tends to be high, often exceeding the unit cost of secondary school placements by two or three times. The high cost of facilities, equipment and instructional materials, high instructional costs due to small class size, and relatively high teacher salaries combine to make VET an expensive public investment. Consequently, some critics argue that other means of financing should be used, particular in the case of programmes designed to address specific private sector needs (Psacharopoulos, 1987). The public should not be asked to carry all of the burden for financing VET. However, there are few functional guidelines to establish what should be the optimal level of public investment in VET. Considerable variation can be expected across different economies (World Bank, 1991). Some forms of VET will continue to be financed through public revenues simply because there are sufficient social benefits to justify such investments. Good alternatives are also lacking.

However, inefficiencies may be inherent in the way that public funds are allocated and used. Policy makers and planners need to be aware of the constraints associated with the public financing of VET, and of the barriers to the efficient use of public resources. They also need to be aware of ways to maximize the benefits of public funds. This chapter addresses these concerns.

The first section examines the general ways that public financing is used to support VET. Some of the adverse consequences of public financing are identified. In the next section, attention is called to the potential for extending the use of public revenues through alternatives to block grants. Three major issues are discussed in the next sections: the locus of control, equity, and vertical and horizontal imbalance. A concluding section discusses some of the policy implications surrounding the use of general public revenues to finance VET.

A. Experience with public financing

Most publicly financed VET is delivered through public school programmes before employment, although the past decade has seen an expansion in the use of public funds. Beneficiaries include nonformal training centres, as well as pre-service and in-service training for government ministries (World Bank, 1986). In some cases, the state supports the full cost of programmes. To a varying degree, however, most VET institutions depend on a mix of public revenues, fees, donations from businesses and associations, and community support. This trend will no doubt continue as governments increasingly look for alternative ways to finance VET. These additional sources usually account for a modest percentage of total recurrent costs. Capital funds are often provided by the central government (Bray and Lillis, 1988).

Heavy reliance on public financing has had adverse consequences. Programmes may be underfinanced, support unstable, and resource allocation out of balance. These are consequences of the way that revenues are generated, as well as of the way that they are used.

1. Underfinancing

The shortage of resources is practically a universal problem. Developing countries, on the average, spend about 17 percent of their national budgets on education, yet programmes remain underfunded and opportunity

limited (World Bank, 1988). The general level of wealth is too low to generate the quantities of revenue necessary for adequate support. Kenya, for example, allocates 30 percent of its national recurrent budget to education, but public revenues are insufficient, and overall school support is low (Bray and Lillis, 1988). Cote d'Ivoire spends approximately 40 percent of its administrative budget and 13 percent of its investment budget on youth education, but yet demand cannot be met (Bas, 1989b).

Underfunding in relation to VET capacity is generally widespread in developing countries (Chapman and Windham, 1985; World Bank, 1986,1988; Herschbach, Hays and Evans, 1991; Salmi, 1991). Governments have reacted to pressures for expanded educational opportunity by opening more institutions even though resources are limited. The result is underfunded programmes that cannot sustain quality. Under conditions of restricted resources, one of the most constructive policy options is to reduce marginal programmes and reallocate resources. This may be the only reasonable way to improve quality in some countries.

The taxing system itself may contribute to underfinancing. General government revenues can be derived from a variety of taxes, including income, property, corporate, sales and excise taxes. Of these, property taxes are the most stable, because they are least susceptible to economic fluctuation. Like income taxes, they are broad-based, and capable of generating sizeable amounts of revenue. Developing countries, however, tend to make more use of indirect domestic and foreign trade taxes, which generate limited revenue (Guthrie, Garms, and Pierce, 1988). This contributes to the underfunding of education.

When the use of limited revenue taxes is combined with an inefficient tax collection system, the problem of low revenue generation is compounded. Government financed services will continue to be underfinanced until the tax system itself is reformed.

2. Unreliable support

Public revenues may also be an unreliable long-term source of income. Budgets are appropriated yearly, and allocations are subject to delay and fluctuation. VET must also compete with a multitude of revenue uses, including other education programmes. As a result, funding for VET programmes may fluctuate considerably from year to year.

Newly established programmes often receive substantial initial support, which then declines steadily as the novelty wears thin. Policy priorities change, and political return can be gained by initiating new programmes. Many countries overinvest in capital plant, instead of providing the recurrent funds necessary for maintaining on-going programme quality. De-terioration inevitably follows. Low quality leads to low enrollments, which in turn lead to further deterioration.

Unfortunately, this pattern of decline is evident in many developing countries (Herschbach, Hays, and Evans, 1991)

Training systems require a relatively long maturation period. Korea, for example, expanded its training system over an 18 year period, and over a 15 year period Jordan progressed from a combined trades training centre and polytechnic to an extensive secondary system, an apprenticeship system, and a 14-institution community college system (Middleton and Demsky, 1988; Herschbach, et al, 1985). During the period of development a stable source of financial support is essential. Otherwise, sound long-term planning cannot occur, and fundamental system elements cannot be fully developed.

3. Unbalanced allocation of resources

Because they involve large sums of money and long-term investment, capital expenditures are often the focus of budget deliberations. Annual recurrent support, though modest in comparison to capital expenditures, is more important for maintaining programme quality. In fact, the ability to sustain instruc-

tional quality is linked directly to the level of recurrent expenditures. Despite this fact, adequate support is the exception rather than the rule. When budgets are tight, recurrent costs are the first to be cut - sometimes even when capital expenditures continue to receive funding (Maphosa, et. al., 1985).

Most of the money available for recurrent costs is used to pay salaries, which may be up to 95 percent or more of the annual allocation (Kelly, et al, 1985). Because the general level of support is inadequate, teachers' salaries remain low. As a result, instructional quality also tends to be low, and student achievement suffers. Because little money remains for other operational expenses, the physical plant declines rapidly.

In order to maintain an acceptable level of programme quality, non-staff requirements should receive, at the very least, 15 percent of the annual recurrent budget; 30 percent is a more satisfactory figure. Low recurrent support affects VET programmes more severely than academic programmes because of the equipment, machinery and consumables that are required.

Administrative expenses have been known to consume 30 percent, or more, of recurrent budget allocations. Control of funds is often monopolized by a network of administrative layers, extending from operational units to service and line units. These layers are primarily concerned with monitoring legal and bureaucratic concerns, and pay considerably less attention to overseeing programme quality. Frequently, instructional programmes are standardized among different institutions, with the goal of maximizing cost savings and, perhaps more significantly, administrative convenience. The result is a lack of programme flexibility.

B. The use of tax revenues

Although general tax revenue is the major source of financing VET in many countries, the way that public funds are used is limited. A larger share of the financial obligation can be shifted to other constituencies by making more use of matching funds and categorical aid. However, for a number of reasons, developing countries have relied almost exclusively on theuse of general purpose funds. One consequence is that central governments cannot provide the resources to meet rapidly increasing educational demands. Another consequence is inefficiencies.

1. Use of general purpose funds

General purpose funds are used to support salaries and instructional and programme maintenance costs at local institutions. They are usually allocated annually on a per student or class basis, and are easy to administer, since it is possible to anticipate required funds. Capital building and equipment costs are usually funded separately, and are centrally administered through a support agency. Separate funds are also generally used to subsidize central and regional administrative units.

When allocated on a per unit basis, general purpose funds usually do not account for variations in need, capacity or performance. Administrative simplicity is achieved at the price of neglecting local differences. This can create problems, especially when only a portion of local expenses are funded by the central government. Because wealthier communities have more money to spend, they can ensure superior programme quality. On the other hand, if the state provides most of the funding, greater equity can be achieved. However, the resulting strain on the state budget may ensure that nobody receives adequate support. Instead of some schools benefitting more than others, all schools suffer equally. Moreover, increased central funding often means increased central control of programming, and flexibility is lost.

When funds are allocated on the basis of enrollment, there is less incentive to strive for quality. Institutions receive a set amount of money per student, regardless of instructional performance. They will be inclined to recruit as

many students as possible, regardless of background or academic record. In short, educational opportunity is maximized at the expense of quality.

Alternatively, funds may be allocated on the basis of programme completion. This means a greater incentive for instructional quality, especially if student performance is judged against an external examination. At the same time, programmes are likely to practice "creaming," in which only the most promising students are selected for training (Evans, 1988).

Allocation on the basis of completion is probably the best choice under conditions of financial scarcity. Resources will be used more effectively, and programmes will enjoy a higher rate of return as a consequence of increased job placement rates. If the primary goal is to expand opportunity, however, funding on the basis of enrollment may be appropriate. There is also a middle ground, in which a foundation grant based on student enrollment is combined with an additional allocation per programme graduate (Cohen and Geske, 1990). This combination assures a degree of equity and quality. In any case, it is essential that an adequate level of financial support is provided regardless of the method or combination of methods used.

2. Matching funds

To receive a matching grant, the potential recipient must first raise a certain quantity of money on its own. Once the quota has been fulfilled, the funding agency will provide a corresponding amount. Matching grants are commonly provided on a sliding scale, which requires the institution receiving the funds to absorb an increasing percentage of annual programme cost. For example, a grant may be allocated, in decreasing amounts, over a ten year period; at the end of ten years, the funds may level out and continue at a reduced level. If funds are discontinued altogether, the training activity usually disappears as well.

Matching grants serve a number of purposes. To begin with, they encourage local initiative. They can be used to provide a high level of support while programme infrastructure is being developed, and to provide a minimum level of support once the training activity is underway. Unless legally restricted, matching funds can be obtained from public or private sources.

3. Categorical aid

Categorical aid is usually designed to supplement general purpose funds, and must be used for a stipulated purpose. It is the least common of the three methods of funding. Categorical aid is an effective way to target specific populations or critical skill needs. Because programme compliance must be monitored, additional administrative costs are inevitable. However, these can usually be absorbed through general purpose funds once the particular programme has become embedded in the institution.

Categorical aid and matching grants are both ways of encouraging institutions to implement change or to set priorities. They allow considerable leverage to be achieved with minimum levels of funding. In this way, central funding agencies can use limited resources more effectively. Institutions have an incentive to deliver quality performance, since compliance is usually monitored carefully.

For these methods to work, however, central governments must relinquish a varying amount of legal, administrative, and operational control. New revenue generating mechanisms must be developed, and the concept of public supported VET must be broadened to include funding through local taxes, user fees, collaborative arrangements with the private sector, and other means. Governments with high levels of central control are often reluctant to make these changes.

The use of matching funds and categorical aid enables governments to share control while at the same time shift part of the financing burden to others. In the face of the continuing need to finance educational expansion, governments may have few other options than

to increase the proportion of matching and categorical funding. The case of the United States is instructive.

The case of U.S. federal financing. The federal government of the United States presently makes extensive use of categorical and matching funds. The emphasis has shifted, from making relatively large contributions to local operational costs, to maintaining influence by setting national priorities. The proportion of federal funding as an amount of local programme costs has decreased accordingly. The total federal contribution to public supported VET is currently between six to eight percent of state and local contributions. In this way, considerable leverage is exerted with a minimal financial obligation.

However, much depends on the way funds are apportioned. Although the ratio of support for programme operation at the local level is low, a relatively high level of administrative support is provided for the maintenance of state VET agencies. These agencies are instrumental in generating additional state and local funding, enlisting private sector support, and monitoring programme compliance. They serve as the vehicle through which federal policy can be carried out indirectly. At the same time, as the proportion of federal funding drops below 8 to 10 percent of local operational costs, local leverage is disappearing. The contribution is simply too small to influence programming.

C. The locus of control: centralized and decentralized systems

To varying degrees, the collection and disbursement of revenue in most developing countries is centralized. There are two major consequences: a) the status of VET is largely determined by the economic ability of the central government to support schools, rather than by social and economic requirements; and b) there is considerably less potential for cost sharing, and thus less potential for revenue generation. In the following section, we will discuss the second of these consequences.

The degree of centralization of VET is largely a function of the political context. It is neither all good or all bad. What is important to keep in mind, however, is that centralization influences the institutional form of VET and its operations, as well as the way that it can be financed.

1. Financing and control

There is a relationship between the way that countries are organized and controlled and the way that educational services are provided (Bray and Lillis, 1988; Hinchliff, 1986;1987). Shifting some of the burden of support for VET from public funds requires alternative ways of raising revenues. However, decentralization of financing usually means sharing power. In many developing countries the central government maintains major control, a tradition of self-reliance by local communities does not exist, and local communities and government do not have their own taxing authority. Marginal social groups often have to be incorporated into public decision-making (Winkler, 1989). Although there is growing interest in the diversification of educational financing, the clear policy implication is that greater authority must be given to communities and lower levels of government.

Control of VET tends to imitate patterns of funding. When the state finances the majority of the educational budget for VET, it also wants control over defining teacher qualifications, certification, and curriculum (World Bank, 1988). Some governments ban the use of fees and levies, prohibit private schools, and impose restrictions on community education. Government bureaucracies were initially developed to control rather than to render service, which is a relatively new concept in many countries. Consequently, even though official policy may promote wider educational participation, there are so many obstacles involved that the real effect is to oppose it (World Bank, 1988; Bray and Lillis, 1988).

2. Characteristics of centralized systems

Centralized systems are characterized by high administrative costs, a lack of flexibility, and unresponsiveness to local labour force requirements. It is difficult for individual institutions to initiate change. In addition, the allegiance of local administrative staff is to the central authority, and not to local employers (Winkler, 1989; Middleton and Demsky, 1988; Rosenholtz, 1985). Because they are easier to administer, training centres are the preferred type of institution (Dougherty, 1989). Budgets also tend to be standardized, even though the financial requirements of individual local institutions may vary substantially. Standardization makes it easier to preserve system control. There is a direct link between policy, funding and execution.

In small, low income countries, administrators often prefer a highly controlled, centralized training system. Because resources are so limited, they have to be protected. Interlocking political and administrative networks facilitate centralization. In the early stages of developing national training capacity, a centralized system may be the best policy option, because institutional capabilities are not yet strong (Winkler, 1989). However, as institutional capacity develops along with a maturing economy, centralization becomes less desirable. Autocratic, centralized systems tend to retard the development of what can become competing training alternatives, both public and private. When there are strong publicly controlled training systems, alternative systems simply do not have the chance to develop.

D. The issue of equity

The enhancement of equity and equality has traditionally served as a justification for the public financing of education (Cohen and Geske, 1990; Dougherty and Tan, 1991; Psacharopoulos and Woodhall, 1985). Individuals, as well as communities, have unequal capacities to purchase education. The state intervenes in order to "equalize" opportunity.

1. The failure to achieve equity

Apart from good intentions, publicly subsidized primary and secondary education generally does not in fact assure equity in the distribution of resources. Evidence suggests that there is a strong correlation between income level and school enrollment (James, 1987). Individuals from more affluent families may receive two to three times more public benefits than their less privileged counterparts. Farmers, inhabitants of rural areas, and members of the lowest socioeconomic groups receive the least benefits (Mingat and Tan, 1986b).

Publicly supported VET often provides opportunities to students who would otherwise have limited educational and employment prospects. It may, in fact, be the only reasonable educational option open to them. However, disadvantaged students are less well-represented in VET programmes that have educational prerequisites - particularly in the case of programmes which require at least some secondary education, and which may be beyond the reach of all but the most able. The very poor often cannot attend VET simply because they cannot afford the supplemental resources and the sacrifice of potential earnings (Dougherty and Tan, 1991).

Under conditions of limited resources and high demand for education, VET can become another weapon for the affluent in the contest for restricted places in the educational system. This is particularly true in low income countries. Public support for all educational programmes is so limited that only the more privileged may secure places in VET, as it substitutes for the lack of opportunity elsewhere. Publicly supported VET may in effect exacerbate relative inequities, especially if support for VET is provided instead of expanding and enhancing primary education (Dougherty and Tan, 1991).

2. Achieving greater equity

Access to elementary education probably provides the best avenue of opportunity for the more disadvantaged. There is more equitable access and representation at the elementary level than at any other. Elementary education also improves employment prospects and opens the way for participation in VET programs. A case can also be made that the most disadvantaged are best served by nonformal VET programmes that operate outside the established educational framework, along with recurrent training (Dougherty and Tan, 1991).

E. Vertical and horizontal imbalance

Regional and local variations in school costs and resources also contribute to inequity (Hinchliffe, 1987). These may involve a variety of factors: transportation and building costs, pay scales for teachers, the distribution of underprivileged groups, and the ability of local communities to raise revenue. Differences in the tax base are reflected in the treatment of various localities.

If maintaining equity is a social objective, then the state has the responsibility to help compensate for local and regional disparities (Hinchliffe, 1986; 1987). This can be done through a number of equalization methods. Remedies include reversing centralization, the use of general purpose grants through which resources are returned, and changing the way that revenue is raised, giving more taxing authority to lower government levels (Cohen and Geske, 1990; Guthrie, Garms, and Pierce, 1988).

1. Vertical imbalance

Equalization involves what is called vertical and horizontal imbalance (Hinchliffe, 1989;1987). Vertical imbalance occurs when the amount of fiscal resources controlled by the central government is significantly disproportionate to that available to other, lower levels of government. This situation typically occurs as a result of the centralized revenue collection policies that predominate in developing countries. These ensure that the central government controls the most gainful sources of revenue. Regional and local units must depend on the central government for revenue-sharing, and the allocations they receive are usually insufficient. It is at lower governmental levels, however, that responsibilities for education and social services are expanding most rapidly. As a consequence, obligations cannot be fulfilled.

Substantial vertical imbalance exists in most developing countries. Except for general purpose grants, precise methods of addressing the problem have not been identified. Therefore,VET at the local level will continue to experience severe financial constraints until an equitable solution is found.

2. Horizontal imbalance

Horizontal imbalance refers to differences in the economic base among the various regions and local units. It leads to differences in the ability to raise revenue for the support of education. Unless central funds are redistributed, there will be unequal access, opportunity, and services. At issue is how to divide resources from the central government between various jurisdictions in an equitable manner. This is more easily achieved in centralized systems of government, where the relationship between different levels of government is relatively direct, than in federal systems (Hinchliffe, 1987).

Most equalization schemes involve the use of flat grants and categorical aid (Guthrie, Garms and Pierce, 1988). However, the receiving jurisdiction must also contribute revenue at a standard rate so that there is at least an equal base to work from. In many developing countries, the inability of communities to make the contribution thwarts equalization.

F. Policy Implications

Public financing is often an insufficient and unstable source of support for VET. The consequence is that programme quality is so low that there is little return on the public investment. Whatever form of VET is implemented, funding must be at an appropriate level to assure sustainable institutional capacity.

For some countries the most prudent policy initiative is to eliminate poor quality programmes and reallocate resources. VET capacity is overextended in relation to the ability to sustain programmes. At the same time, there are limited alternatives to public financing. This is particularly true in the case of low income countries. The best use must be made of the limited resources that are available, and this may require consolidation.

To be sure, under-financed VET systems can be potentially strengthened through complementing public financing with other sources of revenue. However, in many cases this will occur only if there is programme reduction, consolidation, and resource reallocation. This is because when the public educational budget is already seriously over extended, other funds are used as a replacement for, rather than an addition to, government funds. The overall level of programme support remains inadequate.

Resources also need to be used more efficiently. A policy and legal framework is required which ensures the stability of long-term financial support. Fiscal uncertainty contributes to institutional disarray. The maturation process inherent in the building of VET systems requires stable financial support. Without stable support, resources are used poorly. It is also essential to redress imbalances between capital and recurrent expenditures; salaries and other operational expenses; administrative and operational support. These imbalances also lead to the poor use of resources. The problem of limited resources is compounded by the inefficient use of resources.

Inherent in the way that public revenues are raised and used are structural characteristics which contribute to operational inefficiencies. Nothing short of policy reform can remove these inefficiencies. The primary challenge some countries face is formulating and implementing a consistent set of policies which contribute to the effective use of resources. The cost of not making reforms will continue to be an inability to sustain quality VET systems. The diversification of resources does not automatically remove inefficiencies.

The base of support for VET also needs to be broadened. To do this, however, often means that certain functions and responsibilities will have to be devolved away from central authorities. Governments will also have to relax restrictions on private forms of education and allow the establishment of programmes over which they have little direction. In some countries, this may be the most difficult challenge faced in expanding the base of financial support for VET. It is highly uncommon for governments to voluntarily relinquish control and authority over functions for which formerly they have had control.

The reform of tax laws can broaden the tax-base, and more effective tax collection can increase national revenue. The use of central resources can be extended through matching and categorical aid. In the use of all public funds, however, questions of equity are yet to be solved. Public financing provides unequal benefits to individuals and localities. More resources need to be generated, and they need to be use more effectively. An equal challenge is to use resources more equitably.

II. Enterprise financing of training

The boundary between what constitutes public and private sector financed training is not always clear. In the case of some programmes, they may be co-financed, and in still others government agencies may exert heavy legal and administrative control over the use of resources, even though the majority of funding comes from private sources.

The financing mechanisms reviewed in this section generally apply to training schemes which prepare individuals for immediate employment in an enterprise. Strictly speaking, however, all of them do not represent pure enterprise financing since a share of the burden of support may also fall on the state, workers and consumers. Nevertheless, they are an alternative to direct government financing through general revenues, and the enterprise provides training directly or finances at least a major portion of it.

Use of the earmarked payroll tax to support a national training agency is the method of choice for financing nonformal VET in most of Latin America, in some of the Caribbean countries, and in Morocco and Zaire. A more recent alternative, the tax rebate or credit is used in most other developing countries. The "Dual System" developed in Germany includes a combination of apprenticeship and institutional-based training, and uses both public and private financing. This chapter examines these approaches to enterprise financed training.

It is sometimes assumed that enterprise financed training, in whatever form that it takes, can substitute for programmes financed through general tax revenues. In other words, the financial burden for providing VET can be shifted from the general public, thus freeing up tax resources for other purposes. The training schemes finance through enterprises, however, do not fully substitute for other pre-employment programs. They largely complement, rather than replace public programmes operated through ministries of education. In most cases, a well-financed and effective public VET system is an essential prerequisite to the provision of more specific training. This is because public programmes provide the foundation skills on which effective pre-service and in-service training can be structured.

A. The earmarked payroll tax

Use of the payroll tax to support national training agencies is well-established in Latin America. In 1942, the Brazilian government levied a special tax on enterprises in order to provide compulsory technical training to apprentices, and to provide upgrading to young salaried workers and employed adults. SENAI, The National Industrial Training Service, was founded, followed in 1946 by SENAC, the National Commercial Training Service. Other countries soon followed Brazil's example. CNAOP was started by Argentina in 1944 (although it was later absorbed into the formal educational sector); SENA was established by Colombia in 1957; INCE by Venezuela in 1959; and SENATE by Peru in 1961.

Throughout the 1960s and 1970s, national training agencies were established in many of the Central American0 and Caribbean countries. The results have generally been less successful. The administrative, managerial, financial and technical demands have been too great relative to implementing capacity.

From the beginning, there was close collaboration between government, employer, and worker groups, a principle encouraged and supported by the International Labour Organization, and one subsequently followed in most countries (Ducci, 1983). Most of the early national training agencies had a number of

common characteristics. The focus was primarily on the training of out-of-school youth; training was mainly conducted within institutions and focused on urban semi-skilled and skilled formal sector jobs; although the degree of direct government control varied among systems, there was tripartite participation on governing boards; and the ministry of labour or planning had administrative responsibility (Inter-American Centre for Research and Documentation for Vocational Training, 1991a).

Typically, an annual levy is assessed by the government, usually consisting of one to two percent of the wage bill paid by employers. In some cases smaller firms may be exempt, and larger firms may pay more. In some countries, including Argentina, Brazil and Chile, training costs are deductible from corporate taxes as an alternative, or in addition to, the payroll tax. The purpose is to encourage firms to conduct their own training.

1. Recent emphasis

In recent years, national training agencies in Latin America have been moving toward a more varied financial base, including the use of general revenues and user fees, and a greater range of services is offered. While considerable training is conducted through established centres, more is being carried out at the work site. The range of services has been expanded to include formal apprenticeships, combined with classroom instruction, sandwich courses, on-site upgrading and conferences, and the training of instructors. Technical consultancies are also provided to individual firms, and there is greater emphasis on training supervisors, middle managers, and technicians, as national training agencies shift away from programmes primarily preparing skilled and semi-skilled workers.

These changes are designed to diversify funding as well as to generate greater support. Nevertheless, the payroll levy has come under increasing scrutiny as a means of financing training. In Peru, for example, the National Service for Apprenticeship and Industrial Employment (SENATI) has reduced the level of tax; in Brazil SENAI is diversifying funding sources; and in Columbia SENA embarked on a programme to deliver training to small employers. Governments are also diverting more funds from the payroll levy to finance other services (Cuervo and Van Steenwyk,1986; Ducci, 1991; Inter-American centre for Research and Documentation for Vocational Training, 1991a and b). Financial crisis has been accompanied by an examination of the way that national training is financed and provided. Although the payroll levy is inextricably linked with the national training agency, the institutional form is rapidly changing.

2. Experience with implementing systems

Use of the payroll tax levy has been most successful in middle income countries in the initial of stages of developing national training capacity. The levy constitutes a sheltered source of income targetted to specific development objectives. Payroll levies have been effective as a way to initiate institution building. Institutions have the time and resources to develop. The systems developed have been effective in addressing the training needs of the larger, formal sector enterprises, and they have been effective in strengthening government, employer and labour cooperation (Inter-American Center for Research and Documentation for Vocational Training, 1991a and b).

a. Limits to effectiveness

Payroll levies have been less effective, however, as a mechanism to address the training requirements of small and medium size employers, women, disadvantaged workers, the underemployed and unemployed. Those groups outside the formal sector economy are not served well. National training agencies also have been slow in responding to changing labour force requirements (Ducci, 1983;1991).

In smaller, low-income countries, use of the payroll levy has been less successful. Usually the income generating capacity is weak. The private sector is small; it is less well organized;

much of it is in the informal sector; and there is considerable difference among enterprises in the ability to pay. Governments also have less administrative capability to collect payroll taxes, consequentially national training agencies tend to be underfunded. The incident of tax evasion is high (Cuervo and van Steenwyk,1986; Herschbach, Hays, and Evans, 1991).

In addition, the lack of institutional flexibility inherent in national training agencies is a serious constraint in small, low income countries. Unit training costs tend to be very high, instruction becomes quickly out of date, and training priorities are often off target. These problems are less severe in large, modern sector economies, since there is greater capacity to absorb training output of all kinds.

b. Reduction in training by firms

A consequence of payroll levies may be a reduction in self-financed training activities by firms. Taxes inhibit individual initiative. There is a tendency for firms not to initiate training beyond the legally required levels, regardless of need (Bas and Castro, 1989). There may also be a tendency to over centralization, which can threaten institutional flexibility. The collection and disbursement of funds from a central authority tends to promote over centralization (Dougherty, 1989).

3. Cost factors

The national training agency is an institutional form of training which is often highly bureaucratic and is characterized by high unit training costs. Funds may not be used efficiently because they constitute a sheltered source of income. Training conducted through a national agency typically does not have a cost advantage over other forms of training.

The unit cost of training is high because of high development costs, low class size, and the large number of specialised programmes. There are high administrative and management costs (Castro,1979; Corvalan, 1979; Middleton and Demsky, 1988; Zymelmann, 1976). In general, nonformal pre-employment programmes typically cost more than comparable programmes in formal institutions. In low income countries in particular, costs are about twice the cost of secondary school programmes (Middleton and Demsky, 1988). However, programmes conducted through national training agencies are better funded, more directly linked to employers and generally of higher quality (Dougherty, 1989).

4. The question of equity

Payroll levies are a form of benefit tax. The costs are borne by the enterprise, which ultimately profits from a more highly trained and productive work force. However, there is considerable evidence from developed countries to suggest that at least a portion of the cost falls on workers in the form of lower wages (World Bank, 1991; Whalley and Ziderman, 1989). This is equitable since, in effect, workers are subsidizing their own training, from which they benefit over the long term in the form of higher wages and greater job security. However, when payroll levies are diverted to other purposes the tax becomes inequitable. Workers, and employers, in effect, are financing other social services.

a. Use of tax for other purposes

In recent years there is a growing tendency for government itself to use at least a portion of the income from the payroll tax to fund other social services. At the extreme, as little as 15 percent of the revenue from payroll levies may be used to finance the national training authority, with the remainder used to finance general government services (Cuervo, 1985). In the typical case, the diversion of funds is less, but yet often considerable. In Colombia, for example, SENA must allocate 50 percent of the revenues generated through the payroll levy to support formal public school vocational programmes (Cuervo and Van Steenwyk, 1986).

As governments face increasingly stringent financial conditions, there is a greater

temptation to use payroll levies to finance general services. This occurrence is compounded by the fact that the levy may be an oversheltered source of income, leading to the accumulation of large unspent surpluses. Such surpluses only encourage governments to consider other uses for funds (Dougherty and Tan, 1991).

b. Taxes and benefits

Although earmarked payroll taxes may appear to be a good approximation of benefit-related taxation, this is deceptive. Services are not received in proportion to taxes paid. Firms with greater numbers of employees pay the largest share of the tax, but they do not always receive more services in return. Payroll size is only indirectly linked with training need. Firms with high average wages may already have a highly trained work force, and are less likely to fully benefit from the fund. On the other hand, those who pay the least taxes may have disproportionally greater training needs. However, smaller employers are less likely to benefit from training in whatever from because they have greater difficulty in retraining employees over the long-term (Salomé and Charmes, 1988).

5. Policy implications

As a consequence of economic crisis, restructuring, and technological change, the concept of a national training agency has come under increased scrutiny. There is concern for containing cost, achieving greater institutional flexibility, and targeting training to a wider range of populations. As the larger national training agencies have attempted to address these concerns, they have also attempted to diversify their source of financing and broaden training activities (Ducci, 1991). This is required not only to generate higher levels of income, but also because many of the emerging training priorities lie outside the scope of activity traditionally funded through earmarked payroll taxes. Training agencies will remain viable if they can change rapidly enough.

In the initial stages of building national training capacity, earmarked payroll taxes contribute to the stable growth of training institutions. Funds can be mobilized over a sufficient period of time to build training capacity with strong employer links. Stable institutional growth is achieved. Eventually, however, over centralization can inhibit institutional flexibility, and it is difficult to develop training alternatives outside the framework of the national training agency. A stagnant training delivery system can result. Costs also tend to be high, and many of the managerial and instructional inefficiencies which plague other forms of institutional training are also associated with national training agencies.

The concept of a national training agency is less appropriate for small, low income countries. It has been difficult to achieve the same degree of success attained by the training systems implemented in the larger South American countries. This is primarily due to restricted economies, limited financial resources, weak management and staff capabilities, and an inability to capitalize on economies of scale. Unit training costs tend to be high, and institutional quality and flexibility is often lacking.

As economies mature greater training flexibility is required to accommodate changing technology. In countries experiencing rapid economic change, the effectiveness of a national training agency may be limited. This is especially true in countries characterized by the development of high valued-added activities, such as computers, telecommunications, and precision instruments. Highly skilled and trained workers are essential, requiring a highly specialized, flexible and diverse in-service training system.

B. Tax rebate and credit schemes

While in Latin America the most common financing pattern is use of the payroll tax to fund national training agencies, in most other regions the tax rebate, or tax credit system is

used. The general principle is the same: those who benefit pay the costs of training(Bas, 1982; Pedder, 1989).

In the case of the tax rebate, a portion of the tax is returned directly to the firm. This is in the form of a subsidy for training that is conducted either directly by the firm, or that is contracted through a training agency. The rebate may be on a cost-incurred basis, as in Singapore and Tunisia, or in the form of a grant to establish an in-firm training system, such as that found in Nigeria and Zimbabwe.

In the case of the tax credit, the firm reduces its tax bill by the value of the training it has provided. The tax credit is thought to be less cumbersome to administer, and it may offer more incentives to train because there is a clear and obvious connection between the tax bill and training. If the firm's training outlay reaches the legally set limit, no taxes have to be paid (Bas and Castro, n.d.). Most governments direct the remaining portion of the payroll tax into formal and nonformal pre-vocational programmes, or into programmes targetted to specific populations, such as unemployed youth. A certain percentage also goes to pay for administrative costs (Whalley and Ziderman, 1989).

1. Different ways that the tax is used

There are a variety of ways that countries use rebates or tax credits to promote training. In Cote d'Ivoire, modern-sector enterprises are assessed 1.2 percent for continuing vocational training and 0.4 percent for appprenticeship and initial training. The funds are administered by Fund for the Development of Vocational Training (FDFP), which is a tripartite organisation. A certain portion of the levy for continuing vocational training (0.6 percent) is retained by enterprises to organise their own training programmes. The remaining funds may be used to subsidise specific or interplant training programmes, possibly to be prepared and promoted by the new Agency for Vocational Training (AGEFOP), and executed either by public or private training bodies. AGEFOP's functions are, however, not yet definitely defined but will be set out during the course of 1993.

In Taiwan, the initiative for enterprise-based training has come mainly from small and medium-size firms and state enterprises. The government itself has had little involvement. Firms receive up to 80 percent training reimbursement. In Hong Kong, firms have taken the initiative. Organizations have been formed by employer and labour groups to serve industry, with firms electing to do the training themselves or to use the services of the training organisation. Singapore uses earmarked payroll taxes to achieve economic restructuring. The tax is levied exclusively on low wages to encourage the use of high capital and advanced technology. The intended effect is to upgrade low-wage workers. Firms which conduct training and raise wages are exempt from the tax (Pedder, 1989; Salome and Charmes, 1988).

2. France: Financing diversity

France has the most comprehensive system of financing. The system is based on a combination of public supported, pre-service training, enterprise financed in-service training, client fees, and contracted services. State, regional and local funds add up to about 40 percent of the total annual outlay for all types of VET; the remainder is financed by private enterprises.

a. Three sources of financing

There are three major sources of financing: general tax revenue, the compulsory apprenticeship tax, and the compulsory in-service tax (World Bank, 1989).

a) General tax revenues are used to support both public and private secondary level, pre-employment vocational education. The outlay for VET is large, constituting approximately 1.5 percent of GDP. Almost everyone receives skill training, if only in the form of short-term, specialized courses. As a result, most newcomers to the labour force have a basic repertoire of general and technical skills. This is a significant advantage because,

as we have already seen, a high level of in-service training can only be achieved when there is an existing foundation to build on.

b) The compulsory apprenticeship tax, consisting of 0.6 percent of a company's wage bill, is used for initial training. The tax is distributed in two ways: 0.1 percent is reserved by the government for the purpose of training youth between the ages of 16-25; the remaining 0.5 percent is collected and administered by regional councils and local parastatal organizations. Employers can meet their obligation in one of four ways: 1) they can accept apprentices or offer in-plant courses, thus exempting themselves from payment, 2) they can pay fees directly to external institutions that provide courses, 3) they bestow their assessment on a particular training institution or association, even though no direct services are received in return, and 4) they can elect to pay the tax directly to the government.

c) The compulsory in-service tax applies to all enterprises with more than nine employees. It constitutes 1.2 percent of each company's total wage bill. Employers can use 0.8 percent of this to conduct their own in-house training, or they can contract for training services to be provided inside or outside the firm. Of the remaining amount, 0.3 percent is used for youth training, and 0.1 percent is used for training individual employees during paid training leave.

b. The development of a training industry

A large training industry has developed in France. Although many enterprises operate their own training departments, a diverse group of independent service providers is also available. These range from small, specialized firms to large corporations that offer comprehensive services. Thus, employers have a variety of options available to them. The quality and substance of training is often unpredictable. Market forces, in the long run, tend to eliminate ineffective services. But it remains difficult to monitor overall training performance successfully.

The French system has achieved considerable flexibility with regard to the levels and the types of available training, and the forms of VET used. The diversity of options means that companies can respond to multi-level job classifications, as well as to changing job demands. Multiple financial alternatives, combining public and private funds, can be used. Service providers have an incentive to maintain quality, since their clients are free to look elsewhere if unsatisfied. Training costs are regulated mainly by supply and demand.

The Government at all levels takes an active role in the system. The national government, regional councils and enterprises cooperate closely. The Government provides the legal framework, formulates policy, and monitor compliance, cost, and quality. At the operational level, training is implemented with the minimum of government intervention.

3. Experience with implementing systems

a. High administrative cost

Although tax rebate and credit schemes are a dynamic and flexible approach to training, there is less administrative control. The highly decentralized system is difficult to administer. Combinations of in-firm, private training agencies and government institutions are used to present a heterogeneous mixture of courses, but oversight of the kind and quality of training is difficult to achieve. This leads to high administrative costs.

b. The leveling effect

There appears to be a leveling effect. Firms which would normally invest more in training, tend to reduce their effort to the level required by the law in order to receive the maximum tax rebate or tax credit. There is some evidence to suggest that if firms are reluctant to train, they organise useless training without any perceived connection to the needs of the firm (Bas and Castro, 1989).

c. Advantages to large enterprises

Large enterprises tend to benefit disproportionately. They have the capabilities and resources to set up their own training, tailoring programmes to their specific needs and building a stable staff (Salome and Charmes, 1988). However, grant and rebate schemes seldom support total training costs. For this reason, small employers are less likely to train. The unit cost of training is too high because they cannot capitalise on economies of scale. In the case of Singapore, for example, in 1985 all firms with 200 or more employees applied for training grants in contrast to only 25 percent of the firms with 50 employees or less. Of firms with 10 employees or less, only 2.2 percent applied for grants (Pang and Salome, 1986). The French system addresses the needs of small employers through outside service providers. However, the overall cost of the training system is high, and control over the quality and kind of training is difficult to maintain.

d. Stage of economic development

Grant and rebate schemes are probably less appropriate for low income and less technological advanced countries. In low income countries, firms have difficulty providing all types of training. Low-level, unskilled jobs also require little organized training.

Grant and rebate schemes are most effective in those countries with rapidly maturing economic structures. Technological intensive production is more likely to require more frequent training and retraining to the specifications of the firm, thus requiring a financing mechanism which supports in-service training. Countries that are developing economic structures characterized by high value-added activities need highly skilled and trained workers and, therefore, highly specialized and diverse in-service capability (Lillard and Tan, 1986; Salome and Charmes, 1988).

There is also high vulnerability to economic fluctuations. Any slow down in the economy means an immediate reduction in training revenues because income is directly tied to payroll levels.

e. Evaluation essential

Rebate and tax credit schemes are most effective when they are operated in conjunction with an evaluation programme in order to ensure that the training is actually implemented as intended, and that training quality is high. Without monitoring, there is substantial opportunity to falsify the amount and kind of training conducted. Quality cannot be maintained. However, the high cost of monitoring and evaluating activities is an impediment to the use of such schemes.

4. Policy Implications

The use of tax rebates and credits fosters a dynamic approach to training, one in which individual enterprises are encouraged to take responsibility for training either by providing it within the firm or purchasing it through an off-site contractor. This system of financing is particularly appropriate for purposes of retraining and upgrading; it is less effective for purposes of pre-employment training.

Employers are reluctant to support extended training for novices. For this reason, the tax and rebate system is best used in conjunction with other financing methods which support preemployment training and other forms of occupational preparation. To be most effective, in-service training requires individuals to already have a foundation of skills upon which the new training can be structured. Otherwise, appropriate performance levels cannot be reached, and unit cost of training tends to be high.

Technological intensive and high value-added production is more likely to require more frequent training and retraining to the specifications of the firm. Firms need to establish an ongoing training system, and they need greater control over the substance and quality of training. Under these conditions, tax credits and rebate schemes are highly functional. In

the case of immature economies, tax and rebate schemes are less functional.

Tax and credit schemes offer advantages to large employers. There are fewer advantages for small employers, and few may train. The establishment of independent service providers can help address this condition.

The management requirements are considerable. The great diversity in programmes, level of training and participating firms makes the monitoring and evaluation of training difficult. When evaluations are carried out, they are often for the purpose of determining if firms have fulfilled their training commitment, and thus are eligible for funds, and not for the purpose of assessing the quality and relevance of training. Without adequate monitoring, control cannot be maintained over the substance and quality of training. Considerable waste occurs. For this reason, the use of tax rebate and credit schemes may be less appropriate in situations where there is weak management capacity.

C. The German dual system

At any given time, 60 percent of the young people of all ages participate in the German "dual" training system. In its most basic form, the system combines training in public vocational schools with experience at the worksite. For one or two days every week, apprentices attend the public vocational high school, where they receive instruction in general subjects and theoretical, occupational-related subjects. The rest of the week is spent on the job, learning how the theoretical material translates into practical work skills. The programme generally has a duration of three years, after which time a certificate is awarded. Individuals may go straight to work, or continue to other levels of formal education.

School costs are met by the state. Participating enterprises defray the cost of in-firm training, including material and equipment. Federal and regional government annual outlays amount to about 1.6 percent of GDP. Because the supply of potential apprentices sometimes exceeds available openings for training, the state may provide funds that enable firms to absorb the extra load. Apprentices help support the cost of their training. They supply the instructional materials required by the vocational schools, and they accept lower wages than can be earned in unskilled work.

1. Experience with implementing programmes

The imbalance between training demand and placement opportunities is a major problem associated with apprenticeship systems, including the German dual system. The capacity to deliver training to large numbers of school leavers fluctuates in accordance with demographic and economic trends. The system works best when the placement demand is moderate compared to the amount of opportunity. It works least well when placement demand is heavy (Casey, 1991; Hegelheimer, 1988). When there are too many trainees for the number of available openings, alternate options must be found. This drives up the cost of training.

To compensate for imbalances between demand and opportunity, Germany has established training workshops in larger firms, for the purpose of supplementing on-the-job training. At the same time, external training centres are funded through user fees, levies on firms, and public subsidies.

2. The costs to participants

Because of substantial variation within and among firms, useful cost figures are hard to establish. There are many hidden expenses: lower productivity on the part of experienced workers charged with instructing apprentices; breakage and waste of materials; the cost of processing and management. Though they may add up to a considerable amount, there is usually no direct accounting of these costs. In return, enterprises have the services of apprentices at their disposal. Obviously, the value of

the service must offset the perceived costs; otherwise, employers would have no incentive to accept participants.

Initial in-firm apprenticeship training is estimated to cost up to three times more than the value of the productive activities trainees perform. By the third or fourth year, however, firms usually realize a net gain (Gravalas and Meissner, 1986). Dougherty and Tan (1991) conclude that most formal apprenticeship systems provide an overall net benefit to firms. If labour codes require apprentices to be paid comparatively high wages, this benefit can vanish, and with it the inclination among employers to participate (Cuervo, 1985). On the other hand, in Germany the demand for placements is so high among school-leavers that an extensive, low-wage apprenticeship system has been created (Dougherty, 1987). In any case, there is an equilibrium point, beyond which it is difficult to place apprentices. For this reason, apprentices are generally paid below "market value" in order to encourage employers to take placements.

3. The importance of cooperation between partners

In Germany the federal government's role in training consists primarily of regulating activity at the workplace and standardizing public school components among the various states. Meanwhile, regional governments work closely with labour and business representatives in order to implement training. They determine objectives, subjects and training standards. A constructive social partnership must exist if inequities and social tension are to be avoided. Without cooperation and a shared responsibility, the dual system will not work (Streeck, et al, 1987).

4. Application to a developing country: The VTC in Jordan

The apprenticeship programme conducted by the Vocational Training Corporation in Jordan is the most comprehensive application of the dual training system in a developing country. Like its German counterpart, it combines formal instruction with on-the-job training. In large companies, however, formal instruction takes place onsite. This reduces government costs considerably, since the firm supplies the instructor and all supporting materials.

Apprentices at smaller firms receive formal instruction one day a week at a training centre. Throughout the training period, a training officer maintains a liaison between the job site and the formal instruction, and in the case of large firms, a representative of the VTC may be assigned directly to the company. Various short-term courses are also offered for unemployed youth and for adults (Herschbach, et al, 1985).

a. Factors contributing to effectiveness

A number of factors directly contribute to the effectiveness of the VTC. The high degree of cooperation that exists between the VTC and employing establishments results in part because the line between the public and private sectors is not sharply drawn. Since the Jordanian government has extensive shareholdings throughout the private sector, its own self-interests are served by an effective VTC, along with the interests of the private sector and the economy in general. Economic policy is closely coordinated with training policy. In the case of Jordan, centralized authority and control contribute to training effectiveness. The linkages established by the VTC are also essential to effectiveness, extending vertically and horizontally throughout the governmental structure, and outwardly to industry and business.

b. Constraints

However, the supply of off-site training facilities is inadequate. The dual system requires formal instruction to be given concurrently with OJT training, and public school facilities have had to be used after hours while centres are constructed. This had led to an unforeseen consequence: as additional centres are established by the VTC, the unit cost of training has increased dramatically due to an

inability to achieve economies of scale. Thus, training costs are 50-60 percent higher in VTC programmes than in the formal secondary school VET centres operated by the Ministry of Education.

The VTC has been unsuccessful in addressing labour market imbalances. Ideally, potential training sites and job placements should equal openings. In fact, sizeable numbers of trainees are placed with a single firm, and few are employed. A large enterprise, for instance, may train 30-50 individuals per year, but retain only three to five percent as permanent employees. In the past, employment opportunities in the surrounding oil producing region absorbed much of the excess output. This is no longer the case. The failure to address the imbalance between demand and employment potential may be the single greatest obstacle confronting application of the dual system in a developing country (Herschbach, et al, 1985).

5. Policy Implications

The dual system embodies collaborative financing, with varying contributions from general tax revenues, enterprises, and the trainees themselves. Nevertheless, the overall tax burden on general revenues is probably not reduced. A high quality pre-employment training component is essential to the dual system. This investment, coupled with public investment in the organised training components of apprenticeship training, places relatively high demands on public support.

The unit cost of training also appears to be high. The dual system, however, does achieve the effective mobilization of additional resources, close links with enterprise, and under optimal conditions, a rough balance between training demand and supply. Less training obsolescence is inherent in the system because of the close link with employers.

Two conditions are essential for the successful implementation of the dual system: constructive collaboration among the social partners, and adequate placement potential. In countries which lack a tradition of shared responsibility, it will be difficult to successfully implement a dual system free from exploitation and inefficiencies. In stagnant economies, a shortage of appropriate placement opportunities is a serious constraint.

Training is only as good as the quality of the placements. A technologically appropriate private sector is essential. Large, technologically advanced firms generally offer the best placements, but there are usually few in developing countries. For this reason, the dual system is less effective in low-income countries with immature economies. Smaller and medium size firms are often not desirable placement options because they are less technologically advanced, and work roles are narrowly defined. In low income-countries with traditional economies, it may be necessary to provide substantial organized training to complement work placements. This will increase cost. The alternative is static training.

III. Fees, fellowships and loans, and vouchers

In many communities, individuals, families and employers now absorb a large percentage of training costs. Governments, faced with the need to conserve funds, are looking for ways to distribute the burden further. They would like individuals to share even more of the financial responsibility for VET. This attitude signals a return to methods that existed before governments assumed a central role, although in many cases the progammes that individuals are being asked to finance are the product of government involvement. The financing mechanisms reviewed in this section provide a number of alternatives. As is always the case with alternatives, however, there are limits to how they may be applied.

A. Training fees

Given unfilled demand for VET, governments have a compelling incentive for wanting those who benefit to share the cost. Training fees are one way to do this. In some cases, full operational costs are recovered from participants; more commonly, employers or trainees directly contribute a percentage of programme costs, while the government finances remaining outlays through general revenues or a special tax.

Cost sharing takes different forms: general tuition fees; charges for food, board, tools and instructional materials; direct labour contributions; partial contributions based on ability to pay; special levies on employers; and community assessments (Bray and Lillis, 1988). Fees may be paid directly to the government, or they may be collected and administered by the training organization or individual institution. In the informal economy, apprentices simply pay their masters.

1. Efficiency and demand

Neoclassical economic theory suggests that training fees, in addition to providing a way to tap nongovernmental resources, can actually enhance efficiency. As Psacharopoulos and Woodhall (1985) observe, students are more cautious and pragmatic about their potential for achievement when they have to pay fees. They will be reluctant to invest in training unless they perceive that it is of high quality and can yield real personal benefits. Over time, the marketplace acts as a kind of selecting mechanism, eliminating poor progammes and stimulating the expansion of strong ones.

a. Fee levels and demand

Fee levels can also be used to control excessive demand. If demand is too high in relation to available places, higher fees can be used to expand services until a balance is achieved (Thobani, 1983). A study in Malawi has shown that fees could be increased upwards to around 40 percent of cost recovery before excess demand for secondary school placements disappeared (Malawi, 1984). However, such increases tend to have a disproportionately severe effect on poor students (Klees, 1984).

b. Operating efficiency

In terms of operating efficiency, the picture is murky. Training fees can seldom be relied on for full pro-gramme support without affecting programme quality. There are limits to how much participants can feasibly be charged, especially in low-income countries. Students and their parents do not always have easy access to cash. Operating costs generally exceed the amount of revenue that can be generated through fees alone.

In general, when income from fees is used to recover 50 percent or more of operational costs, there is a corresponding drop in instruc-

tional quality over the long-term. Immediate financial pressures often discourage VET institutions from attending to programme maintenance and long-term development obligations. The consequence of such neglect is a progressive deterioration in programme quality.

2. The importance of fee level

a. Consequence of low fees

Low fees often result in a lack of institutional support. Only a limited number of progammes can then be offered, and instructional quality suffers. If fees are too low, the incentive to be responsive to students and employers disappears, since the income they provide constitutes such a minute portion of the budget. In Sri Lanka, for instance, the Foreman Training Institute (FTI) recovers only ten percent of its operating expenses through fees paid by students and em-ployers. The remaining 90 percent is covered by a government grant which is, for all practical purposes, guaranteed - regardless of the quality or substance of instruction. As a result, the Institute has little incentive to observe cost measures, establish a relevant curriculum, or respond to market needs (Bressler and Hultin, 1987).

Governments often try to keep fees as low as possible because of political concerns. Opposition to fee changes can be intense, particularly if education used to be "free." Public outcry has, at various times, forced the abandonment of fees in Ghana, Kenya and Nigeria (Bray and Lillis, 1988). The political costs are enough to deter many governments from introducing or raising fees, even if insubstantial revenues are being generated (Psacharopoulos and Woodhall, 1985).

b. Fee regulation

Some governments also regulate the fees that private schools charge, while attempting to enforce a high quality of instruction. As James (1987) observes, however, such policies can be counter-productive. If fees are kept too near market value, a downgrading of quality usually results. It becomes difficult to make a profit, except by reducing the cost of instructional inputs, and the incentive to expand schools vanishes. If fees are kept below costs, instruction will have to be downgraded even further.

In many cases, the goal of regulating fees is to provide more educational opportunity to the less affluent. The actual effect, however, can be very different from what was intended. The removal of incentives for expansion results in limited VET capacity. This, in turn, leads to greater competition for placements -- a competition that the more affluent students usually win (James, 1986,1987a; Klees, 1984; Mingat and Tan, 1986).

c. The consequence of high fees

High fees allow programming flexibility and ensure a higher level of support, but also discourage poorer students from enrolling. Thus, they re-inforce the enrolment disparity that already exists between affluent and lower income groups (World Bank, 1988). This disparity, combined with the effect of market forces, can eventually influence programme mix. In order to survive, an institution may choose to emphasize progammes in higher skilled and income generating occupations, which reflect the aspirations of middle and upper class students (Castro and Bas, n.d.).

In Chile, for example, The national Voctional Training Institute (INACAP), has not succeeded in sustaining a number of technical education progammes on a self-financing basis. The capital investment and operational costs are too high, compared with the income generated through user fees (Ducci, 1991). In Jordan, the extensive community college system is divided about evenly between private, fee charging schools and public-supported institutions. The two can be clearly distinguished by their respective curricula. The private institutions offer only those progammes with low capital investment and a high rate of return (Herschbach, et al, 1985).

d. Use of subsidies

Government subsidies, when given to private institutions, can make it possible to target mid-range occupations. It may be more cost-effective to subsidize limited enrollment, high cost progammes than to offer them through public institutions. However, the need to maintain an optimal level of subsidy must be kept in mind. It may prove necessary to establish spending "norms," so that inefficiencies can be eliminated and training given in specified occupations. If unrestricted, institutions will simply offer training in areas which yield the greatest profits.

3. Fees and equity

In countries that have introduced or raised fees, the dropout rate appears to be less than was anticipated, and those who do leave school are soon replaced by other students (Psacharopoulos and Woodhall, 1985). However, the extent to which less affluent students are discouraged from enrolling is a potential source of great inequity (Klees, 1984). The relative impact of fees varies across income levels. There is some evidence to suggest that the greatest impact is felt among the poorest 75 percent of the population, with a considerably smaller proportional decline in participation among the wealthiest 25 percent (Gertler and Glewwe, 1989). Unless prepared to sacrifice the underprivileged, VET progammes should not expect to rely on unlimited fee increases as a means of financing.

a. Only charging for VET

Some governments charge fees for VET, but not for secondary education -- on the grounds that VET is more expensive. This practice is highly discriminatory. Affluent children already enjoy the benefits of higher public school participation rates (Mingat and Tan, 1986). They also tend to enroll in VET, often in the expectation that it will serve as a means of entrance to higher education. Because fees are beyond the means of many families, VET becomes simply another avenue of opportunity for the well-off. For poorer students, the avenue becomes effectively closed.

b. Adjusting fees to income level

One policy option is to adjust fees to income level, and to use additional sources of income. The Educational Foundation of Montes Claros (FEMC), in Minas Gerais, Brazil, is an example. It receives no government funding for the 2400 students annually served through its day and evening training courses. The assessment of training fees, however, ranges from 30 to 70 percent of training costs, depending on family income. The remaining revenue comes from a combination of industry-sponsored scholarships, contributions and sale of services (Gomes, 1991).

c. Expanding private VET

If the goal is to stimulate the development of private sources of VET, the best policy (in terms both of efficiency and equity) is for the government to provide subsidies while at the same time enforcing fee ceilings. Provision should also be made for special cases, such as the very poor. The combination of subsidies and fee ceilings allows sufficient profits to be made, encourages the maintenance of instructional quality, and enhances opportunity. The government subsidy does not replace fees, but is used to upgrade and maintain quality, and to stimulate the expansion of training capacity. The cost to government is less than that of fully supported public progammes (James, 1987a). Of course, regulations must be instituted to prevent enrollments and quality from declining.

4. Training modes and fees

In developing countries, many people buy training in the extensive, unofficial system that operates alongside the informal economic sector (Fluitman, 1989). These "schools" play an essential role in opening an employment avenue for the very poor. Training fees are very modest, and a limited set of low-level technical skills are taught. But the quality of instruction may be low, and knowledge of appropriate

technology may be lacking. While training in the formal economic sector is usually subsidized by the state, in the informal sector it usually is not.

Bas (1989a and b) suggest that it may be more cost effective to finance indigenous trainers, then to organize training progammes financed through fee-paying participants and government subsidies. Master craftsman are paid a small stipend to offset the extra burden of the additional training provided in approved sites. While it may cost, for example, $100 annually for each apprentice, comparable organized training may cost ten times as much.

The use of fees to finance pre-service training makes it difficult to recruit students, who are generally unwilling to pay the costs of extensive training that may lead to inconclusive results. This attitude changes if fees are paid by an employer, or if the training is expected to result in higher earnings. If an association or employer group conducts the training, the individual is willing to pay fees because of the certain prospect of a job. On the whole, fees are effective in financing short-term training (Hultin, 1987).

5. Policy implications

Fees are now widely used to finance education, and their use will continue. However, there are limits to the extent to which fees can be relied on to finance VET. Too heavy reliance on fees often results in low programme quality, the inability to sustain progammes with high operational and capital costs, and a reduction in training options. The poor are also excluded because they cannot afford to pay fees. The most efficient and equitable policy is to provide subsidies to complement the use of fees. This ensures an optimal level of programme support, provides incentives to maintain programme quality, and allows market forces to work. At the same time, government maintains a presence. Fee level, however, is crucial. They must be sufficiently high to generate adequate income, but not so high that they stifle demand, unduly discriminate against the poor, and distort the training mix.

B. Fellowships and loans

Fellowships are widely used to support training, although the overall level of resources involved usually is not large. Optimally, they are used to target selected, limited areas of critical need; to support short-term, experimental projects not normally funded through other means; or to address the requirements of special groups who would otherwise not receive services. Programming is flexible, and funding is usually phased out once the training objective is achieved.

In Chile, for example, the National Employment Secretariat (SENCE) administers an extensive system of training fellowships designed to provide opportunities to unemployed young people, individuals living in poverty, workers from the informal sector, and the handicapped. These individuals are mainly bypassed by the system of tax rebates granted to formal sector enterprises for the purpose of conducting training. SENCE works with municipalities to supply targeted populations with training resources. Special executing agencies (OTEs) respond to tenders issued by SENCE, and are responsible for providing the training (Ducci, 1991).

1. Administering fellowship progammes

Through the use of fellowships, it is possible to conduct activities that run parallel to the established systems. While these activities draw from existing resources, they maintain independent and flexible funding, which encourages creative programming. When use is made of existing resources, moreover, the marginal cost of training can be kept low. For this reason, the tendency to develop new training organisations and facilities to administer grant and fellowship progammes should be resisted. Whenever possible, it is best to use the existing administrative and management systems, especially since in many cases these resources are not fully used.

Fellowship progammes tend to be expensive. The conditions that allow programme flexibility also result in higher administrative and management costs. There are a number of reasons for this - groups are small, individual students require extensive services, and programme accountability must be monitored. programme start-up costs are often formidable, as are recurrent costs. Finally, grant and fellowship progammes may be subjected to political interference, since they exist outside the "regular" training structure. Thus, cost inefficiencies may be introduced.

It is essential that grant and fellowship progammes be periodically assessed in order to determine whether they should be discontinued or integrated with other activities. Fellowship progammes can become embedded within permanent administrative structures and thus continue to operate long after their original purposes have been achieved. When this happens, an extra layer of financial obligation is added, consuming resources that would better be used elsewhere.

2. Administering loan progammes

In theory, student loan progammes can offset the inability of individuals or families to pay for VET. Money is available at the time it is needed; and payment is deferred until training is completed, at which point the higher earnings that result from training should lessen the burden.

In many developing countries, however, formal loan systems for education do not exist, and the operational skills needed to establish them are lacking. The problems inherent in managing disbursements, collecting repayments, and preventing defaults are potentially enormous, and may cancel out any conservation of public funds. Moreover, poorer students lack collateral, and will be less inclined to perceive the value of self-investment as a commercial proposition. Default rates are likely to be high. Loans do not lead to greater equity, since affluent students are in a better position to make use of them (Psacharopoulos and Woodhall, 1985).

Student loan progammes are most successful when they finance training for higher level occupations that pay comparatively generous wages. These attract students who have access to money, and are more likely to repay their loans. For these students, the benefits of training outweigh the costs. Loans are more appropriate for financing short-term training (with immediate job possibilities) than for long-term training. Student loan progammes are least effective when they are targeted to disadvantaged and less affluent populations, and when they are used to finance training for low paying jobs.

3. Policy implications

Fellowship and loan progammes provide yet another financing option for policy-makers. The establishment of an effective administrative structure is essential, and this condition may be a major barrier to the use of such progammes. Fellowship and loan progammes are not effective in low income countries. They are expensive, and in the case of loan progammes, default rates can be expected to be high. Fellowship and loan progammes generally are not equitable unless they are designed to achieve this objective. The more affluent usually benefit the most.

Fellowship and loan progammes are most commonly used to attain limited and specific objectives. They can be used to address specific populations and critical needs, and they are most effective as a way to support high level, short-term training. They are less effective as a long-term approach to widely fund VET.

C. Vouchers and tuition tax credits

The idea of using vouchers and tax credits is not new. In 1955, economist Milton Friedman proposed that "Governments could require a minimum level of education which they could finance by giving parents vouchers redeemable for a specified maximum sum per child per year if spent on "approved" educational services. Parents would then be free to

spend this sum and any additional sum on purchasing educational services from an "approved" institution of their own choice. The educational services could be rendered by private enterprises operated for profit, or by non-profit institutions of various kinds" (Friedman, 1955, 127-28).

Except for experimental progammes, full voucher or tax credit systems have not been established in the U.S., mainly because they would involve, at the least, a massive restructuring of the current system of public schools. Vouchers have been used by individual schools to contract educational services from neighboring schools, or from providers of special services, such as rehabilitation training. They have also been used to provide low-income families with child services, and to finance proprietary training.

1. Uses and benefits of vouchers

There are two basic approaches. Participants may be awarded grants that equal the average cost of schooling, and the money can then be used to pay fees in a public or private institution of choice. Of course, some institutions may charge more than the amount of the voucher; one policy option is to adjust the amount in order to reflect differences in family income and programme cost. Alternatively, programme costs may be covered, to a specified limit, through tax credits. This approach entails less government regulation, but also requires an efficiently administered system of income or property tax. The objective of both approaches is the same: the enhancement of educational choice (Kutner, Sherman and Williams, 1986).

A variety of benefits can be expected. The choice of institutions, though limited, is likely to foster a competitive educational market. This, in turn, will encourage schools to improve their quality and efficiency. Market forces create institutional diversity, resulting in an equilibrium between training supply and demand. Individuals will be reluctant to spend their vouchers unless they know that training will give them the skills employers want. In theory, at least, the long-term outcome is a dynamic educational system capable of adjusting to the requirements of economic development. A degree of responsiveness beyond the capacity of traditional planning can be achieved. In the long run, direct costs to government will be smaller than investments in public VET, and with no need to support institutional liabilities. The government's role is mainly limited to establishing eligibility requirements, issuing vouchers, and monitoring quality and compliance.

2. Challenges presented

Vouchers and tax credits are regarded as conservative approaches to financing educational services, since they rely heavily on the private market, rather than government, to deliver training. Government responsibility, however, is not eliminated; instead, it is shifted to financing and regulation. Without supervision, the opportunities for fraud and abuse are numerous. Among the typical problems that can be expected are outdated and poor-quality curricula; incompetent teachers, and improperly granted degrees and certificates (Guthrie, Garms, and Pierce, 1988).

A voucher or tax credit system could undermine public progammes. Public schools might become institutions of last choice; that is, dumping grounds for students who are not accepted in other progammes. Inequity might also be fostered. More affluent students would be likely to attend higher priced progammes, since they could afford costs that exceed the amount of the voucher.

3. Policy implications

Voucher systems warrant at least a trial application in developing countries. The potential for reducing public budgets is considerable, and publicly-funded VET progammes could benefit from the competition. The viability of privately-delivered training systems has yet to be sufficiently explored. Whether or not policy-makers are likely to consent to the dismantling of existing funding mechanisms and the opening of public institutions to competition remains to be seen.

A more realistic possibility may be to use vouchers or tax credits in combination with conventional funding - the one to fund pilot progammes and critical areas of specialized need, the other to support traditional VET progammes. In any case, the development of regulatory and taxing mechanisms will be essential. Government will also have to shift its attention from the management of training progammes to the preparation and supervision of service providers. A cadre of trainers will be needed to respond to changing market requirements.

IV. Production for profit

The practice of raising money through productive work is widespread among primary and secondary schools in developing countries. It is usually expected that a portion of operating expenses will be contributed by the local school itself (Bray and Lillis, 1988). Students raise and sell farm produce and animals, tend school stores, operate bakeries, host community events and undertake other money raising-activities. In this way, they earn credit towards tuition fees or, alternately, contribute to general school expenses. Most production activities, however, are not related to ongoing studies, but are simply a means of raising money.

A. VET production activities

In the case of VET progammes, there is usually a direct link between studies and work. While formally learning, the student also produces items for sale. This is a strong combination, since the extensive amount of time spent on production helps strengthen performance capabilities in the particular technical field. However, the ratio of work to formal instruction is a key factor. As the amount of formal instruction increases, the potential for generating income declines. In schools designed to prepare students for examinations that will lead to advanced education, the time available for practical work is limited. A school cannot expect to offset a high percentage of costs through productive activities, and still retain the trappings of a conventional exam-driven system (Boehm, 1989).

B. Experience with implementing systems

The record of long-term, cost recovery production schemes established on a national scale in public institutions has not been a promising one, although there are successful individual examples. The tension between production and examinations ultimately leads to the subordination of one to the other. Public pressure from students and parents often forces institutions to reduce production activities so that more time can be spent on formal studies. The expectation is that school should free individuals from menial work.

There are other problems. It is not easy to recruit and retain a staff that has the combination of skills needed to conduct instructional activities and simultaneously operate a profitable business. In time, schools find themselves in competition with other producers in the community, including their own graduates and other schools. Many schools eventually jettison their production facilities, which are then operated independently, often by a community group (Van Rensburg, 1978; Boehm, 1989; Van Steenwyk, 1984).

Generally, the most effective progammes are those operated by nongovernmental organisations (NGOs). They offer greater institutional flexibility, and a more balanced relationship between practical work activities and theoretical studies. In these progammes, the training activity is the production itself. Production, not examinations, drive the system. On the whole, the record is good. Production shops have shown themselves to be an effective source of training for poor youths, unemployed school-leavers, and disadvantaged adults. These shops may constitute the only practical way to finance such training (Becker, 1989).

C. Potential for recovering costs

The portion of recurrent expenses that can be recovered from production activities varies, from a low of five percent in Tunisia, for example, to as much as 80 percent in the case of Swaziland. The amount depends mainly on the extent to which production is the central activity (Van Steenwyk, 1984; World Bank, 1986).

In most cases, the recovery of instructional costs is enough to bring VET into a close approximation of the cost of academic instruction. Although a longer training period may be required, the combination of training and production activities is, in the long run, less expensive than simply offering training alone. Since activities are concentrated, the need for capital investment is relatively modest. (Becker, 1989; Boehm, 1989). In Botswana, for example, training places in production shops entail less than half the capital cost of comparable places in formal training centres (Van Rensburg, 1978).

The income generated through production activities should be used mainly for financing recurrent costs (other than salaries). Income flow is not constant. The more successful progammes secure contract work from government agencies or community organizations. This shelters them from competition and provides a stable volume of business. The production of capital goods for small farmers, industries, and businesses is a better option than the production of consumer goods. Effective accounting and auditing systems are essential.

D. Policy Implications

Production for profit is not a reliable way to generate large amounts of financial support for formal VET on a national scale. It is unrealistic to expect progammes to be self-supporting. Of course, production activities can help lighten the financial burden, and are a valuable source of practical experience. But the complexities involved in producing and selling quality merchandise are at odds with a school environment dominated by formal examinations.

The inefficiencies that are often associated with publicly-financed institutions present an additional obstacle. Salary schedules and employment conditions may stifle initiative; central accounting systems may decrease flexibility; and budget uncertainties may prevent long-term planning. There may be high indirect costs, restricted production time, and community opposition.

In any case, production activities in formal VET institutions should, at first, be limited to small-scale experimentation designed to show what works and what doesn't work. Further expansion should not take place until trial and error has indicated the scale of activity that can be feasibly supported. Policy and administrative changes are inevitable. Local institutions will require considerable autonomy with regard to financial management and curriculum design, both of which must be shaped by local production requirements. For these reasons, highly centralized systems will find it difficult to implement production activities successfully.

In low income countries, there is often less competition from local business and industry. School production may be able to fill a lack of goods and services, and the potential for cost recovery may be favourable.

Production for profit has been most effective in NGO-operated progammes that complement, but are not necessarily parallel to, public progammes. They target special training activities and populations. The progammes are effective for a number of reasons: instruction is low-cost, student expectations are realistic, production activities are the major focus of instruction, there are relatively few institutional constraints, and staff are recruited on the basis of their production skills. Modest governmental support for NGO progammes may be a good policy option, since a limited investment can yield high returns. However, a major barrier often exists in the form of regulations that restrict the use of public funds to support private VET.

V. International donor assistance

Donor support in all forms has been instrumental in developing VET systems, and it will continue to play a vital, if different role. Through technical assistance, facilities have been constructed, staff trained, and instructional systems implemented. Over the last decade there has been increased emphasis on the development of system and organisational capabilities, although capital expenditures still constitute a large share of international assistance. In general, capacity-building interventions are more complex, comprehensive, and must be sustained over time (Herschbach, Hays, and Evans, 1991).

This chapter examines how donor assistance is used to finance VET. While developed countries have transferred their institutional forms and practices to developing countries, full support is not given. Donor assistance is always limited, and it is relatively short-term. Inherent in donor assistance is a long-term financial obligation on the part of the host country. Unless the constraints of donor assistance are understood, institutional stability cannot be maintained. Projects are initiated, but they cannot be sufficiently supported. Innovations are attempted, but they are abandoned because of a lack of funds.

A. Characteristics of assistance

In the 1980s approximately 40 percent of multilateral assistance for education went to support VET. The percentage of bilateral assistance was considerably less, but accurate figures are unavailable. Private and non-governmental organisations made sizable contributions, but again the exact amount is unknown. Educational aid from all sources is probably substantially underestimated. Donor agencies and governments do not accurately report all contributions. (World Bank, 1988;1991).

External aid to education in Africa constitutes about 17 percent of domestic public expenditures on education. In other regions of the world it may be as little as half as much. Nevertheless, international assistance is critically important, and it exerts considerable leverage on educational policy. However, aid is not rationally distributed by need, the level of development, or on a per capita basis. Middle-income countries may receive more aid than low income countries. Country size makes a difference, however. Smaller countries receive more per capita educational aid (World Bank, 1988).

In Africa, about seven percent of direct international educational aid goes to finance primary education, 40 percent to secondary education, and 17 percent to VET. For every one dollar spent on a primary school pupil, $11 is spent on a secondary school student, and $182 on a VET student; each higher education student receives approximately $575. Of all aid, only 11 percent is used to finance operating costs (salaries of nationals, consumable supplies, and instructional materials), in contrast to 26 percent for capital expenditures and over 44 percent to support experts (technical assistance). Among bilateral donors the percentage for technical assistance is even higher - 55 percent of direct educational aid. Bilateral donors also allocate 20 percent to overseas scholarships. Approximately six percent of all international aid is targeted to teacher training.

In general, among multinational donors a disproportionate amount of aid goes to capital expenditures in relation to recurrent expenditures; and among bilateral donors a greater share goes to technical assistance and overseas fellowships at the expense of recurrent support (World Bank, 1988).

International assistance has focused mainly on discrete development projects, and this, in part, explains the pattern of investment. Projects are limited in scope, capital intensive, and rely heavily on the managerial and staff resources of the donor. The focus tends to be on a specific activity, such as building and equipping a facility, rather than on long-term, capacity-building, such as strengthening management capacity. In the former case, project components are more focused, stable and subject to completion within a specific time. In the latter case, there is considerable uncertainty, complex relationships are involved, and local management capability must be developed. (Herschbach, Hays and Evans, 1991).

Over the past decade, the scope of project activities has broadened. There is greater awareness of how crucial system management and capacity-building activities are to educational development. Nevertheless, donor support continues to be accompanied by constraints which place limits on its use.

B. Limitations accompanying assistance

1. Short assistance cycles

Training systems require sustained development over a long period of time. The maturation process is relatively slow, measured in decades rather than years. In most cases, the funding cycle of donor assistance is relatively short in relation to the development time required to achieve a stable operating VET system. Project cycles may be as little as four to five years, particularly in the case of bilateral support, while VET systems may require a maturation time of ten, 15 or 20 years (Dougherty, 1989; Middleton, 1988).

Donor agencies tend not to enter into development commitments which extend too far into the future simply because they cannot make reliable projections of future policy. This makes it difficult to establish long-term development plans, and limits the effectiveness of assistance. The sustained effort essential to the development of VET systems requires a stable source of funds. But even when donor funding extends over a number of years, it tends to be allocated in a series of phases, comprised largely of activities which have a set beginning and ending point. This is particularly true of bilateral assistance. Considerable project discontinuity often results.

2. Emphasis on capital expenditures

As previously mentioned, there is a tendency on the part of donor agencies to fund capital expenditures. In part, this is because capital expenditures are easier to predict, calculate, and measure. Also, capital investments have a physical presence that is witness to the project activities of the donor. A newly constructed training facility has considerably more immediate impact than does the ledger account of maintenance costs.

One consequence has been the overexpansion of capital plant and the underfinancing of programme operation. Training facilities are built and instructional systems developed which are simply too extensive in relation to the level of recurrent support that governments can provide. Institutional quality cannot be sustained. This has resulted because of the failure to accurately assess the ability of governments to finance long-term recurrent funding obligations. If donor assistance does not cover recurrent expenses, then there must be new sources of income generated by the government to meet new obligations. Unless this is done, already restricted resources are only further divided to support yet another underfunded educational obligation.

3. Importance of recurrent expenditures

In the long-term, the level of recurrent expenditures is considerably more important to project quality and sustainability than are capital expenditures. Progammes cannot operate successfully without adequate support for instruction and programme maintenance. For

this reason, project size and duration should be based on long-term recurrent funding capacity, not need. Need always exceeds capacity. Unless adequate recurrent support is available, project activities will fail (Educational Development Center, 1989).

A high level of donor assistance allocated over a relatively short time can cause financial dislocation. Typically, a substantial recurrent obligation is incurred by the government. Capital investments, for example, usually require concomitant recurrent expenditures of 10 to 20 percent, or more. This requires the host government to take on additional financial obligations, often at the expense of reducing the budgets of other activities. As donor assistance is phased out, the government's financial responsibility can be expected to increase, and as facilities age more maintenance, repair and replacement expenses can be expected.

In determining the size of an initial investment, it is essential to identify whether the host country can provide annual recurrent funds without shifting resources temporarily from other activities to fill the immediate requirements of the new investment, and without disrupting other activities that are needed. All too often, host countries siphon funds from other activities to meet project requirements which deteriorate because of insufficient support, since the funds are often shifted back to other activities when the donor completes the project cycle. Although assistance projects are started with good intentions, they join other malfunctioning activities that are not fulfilling their purpose but are imposing a financial burden on an already weak resource base (Herschbach, 1985).

4. System elements

Vocational education and training is embodied in a system. The critical importance of the balanced development of system elements cannot be overestimated. All elements must function in an integrated way in order to produce effective results. International assistance can distort the system and inadvertently weaken key elements if the total system requirements are not considered (Educational Development Center, 1989). This occurs, for example, when support is given to capital investments, and not to the development of management and instructional capacity; this occurs when assistance is unevenly distributed among different administrative and operational units; and this occurs when a project is too complex for existing implementing capacity (Herschbach, Hays and Evans, 1991; Verspoor, 1989).

The dynamic and less certain project elements, such as human resources and organizational capacity, are more complex and take longer to develop than the physical elements, such as buildings and equipment. This can introduce distortion. Project elements become out of phase.

The most successful donor projects are those that emphasize strengthening management and upgrading the quality of staff. The supply of instructional resources is also essential (Verspoor, 1989; Verspoor and Leno, 1986). However, typically considerably less donor assistance is provided to these project elements.

There is some evidence to suggest that donors are placing more emphasis on the organizational and capacity-building elements of VET projects (Dougherty, 1989; Fullan, 1989; Middleton and Demsky, 1988). However, as these elements are considered, the complexity of project activities increases, and in addition, a longer implementation period is required. Longer periods of assistance must be anticipated. The system components of VET progammes always take considerable time to develop. Interventions by donors must be comprehensive and sustained over a relatively long period of time.

C. Policy implications

If not prudently planned and implemented, donor assistance contributes to a project cycle in which initial activities are fol-

lowed by reduced resources and deterioration. Initial investments are too large in relation to the long-term ability to sustain VET operations; capital expenditures are overemphasized in relation to recurrent expenditures; and project elements are too out of balance in relation to the total system requirements. The project yields little return on the investment because programme quality cannot be sustained.

Donor assistance is most effective when a moderate level of financial support is supplied over an extended period of time; when aid is in proportion to the capability of the host to sustain the project when donor assistance is phased out; when capital expenditures are in balance with the capability to support the required level of recurrent expenses; when all essential system components are strengthened currently; and when capacity-building is the major, if not, sole objective.

VI. Diversifying financing: Limitations and opportunities

There are compelling reasons for the public support of vocational education and training. Low income countries offer few good alternatives. Widespread poverty, low incomes, and undeveloped industry stifle the possibility of generating educational support outside government. The organized structures necessary for collecting and disbursing revenues for training often do not exist. Individuals and employers may lack the incentive to invest in training, because they foresee little return (Castro, 1987; Middleton and Demsky, 1988; World Bank, 1988). Limited as it is, government investment remains the only reasonable source. At the same time, educational opportunity is a prerogative for future socioeconomic development (Lewin, Little and Colclough, 1982). Without investments in education, development cannot occur. For these reasons and others, governments will continue to finance VET through public tax revenue.

Heavy claims on tax revenues, however, have diminished the supply of public resources. Many governments, faced with the need to conserve funds while maintaining an adequate level of services, are now looking for new financing options. But in addition, it can be argued that maturing economies require a flexibility of training capabilities that only multiple sources of financing can provide. Extensive state intervention, while perhaps beneficial to undeveloped economies, is often found wanting when responding to the dynamics of change. (Hultin, 1987; McMahon, 1988; Salome and Charmes, 1988). Diverse financing enlarges the overall national pool of training resources. More resources mean more training, and a wider variety of options. Although governments will continue to finance VET through public revenues, increasingly governments will also seek to expand resources through the diversification of financing.

A. Making better use of resources

However, the diversification of resources should not be seen as the single solution to the problem of financing VET. In some countries, the elimination of inefficiencies is a greater problem. It is only by making better use of resources that the door can be opened for additional resources. Additional resources alone are usually insufficient without first removing the conditions surrounding the inefficient use of existing resources.

1. System overextension

If the VET system is financially overextended, the most immediate priority is programme reduction, consolidation, and resource reallocation. This is crucial whether the means of financing is through public revenues, payroll levies, or any other source. Resources are not used effectively regardless of their origin.

Under conditions of overextension, new resources are often wasted because they are absorbed into an already resource-poor system and the additional revenue is not enough to overcome existing deficiencies. Also new funds are often used as a replacement for, rather than a complement to, public revenues (Herschbach, Hays, and Evans, 1991). Revenue gains realized through additional resources are often expropriated and transferred to a central authority for other use (World Bank, 1988).

2. Inefficient use of resources

The potential for generating increased resources through eliminating inefficiencies may be greater than the potential for creating new resources through diversification. Considerable waste occurs because of the way that resources are allocated and used. Policy must

assure the stable, long-term support of VET; must redress imbalances between capital and recurrent programme support; must focus on capacity-building; and must emphasize strengthening all training system components. Institutions must be effectively managed. Incentives to achieve quality training must be present, and effective links must be maintained with employment. In some countries, without policy reform, inefficiencies will also plague the use of any new resources. Without effective management, good use cannot be made of new funds.

In low income countries in particular, it is imperative that costs be reduced. Unit training costs must be contained, programme enrollment maximized, and completion rates increased and programme cycles shortened. Priorities must be established so that limited resources are used effectively. The alternative to consolidation and better resource use is many low quality, low-enrolled progammes which are difficult to revitalize with limited new resources.

Donor assistance can inadvertently cause inefficiencies. Selective funding leads to the uneven development of different programme components. Project cycles may be too short, resulting in discontinuity, and new commitments may be developed which cannot be sufficiently funded by the host country. More successful interventions follow a policy of long-term incremental development, concentrate resources, achieve balanced project development, and pay particularly close attention to recurrent funding requirements (Dougherty, 1989; Herschbach, Hays and Evans, 1991; Middleton and Demsky, 1988).

In any case, there may be considerable potential for improving the efficiency of VET, and unless this potential is realized there may be very little programme improvement gained through additional resources. In already inefficient systems, more money does not necessarily help. It just means that inefficiencies are carried out on a larger scale. The most important initial policy consideration is to make better use of existing resources.

B. Broadening financial support

In most countries, VET is now financed through a variety of sources. Governments have devised mechanisms for shifting part of the financial burden for VET to individuals, families, communities and employers. Much more attention is being given to developing alternatives as the limits of public financing are recognized. The problem is clearly to generate more resources and to put them to effective use. However, in all countries there are limits to realizing this objective.

1. Governmental barriers

In some countries, the single, most important barrier to the diversification of financing is the form of government, its policies and its practices. Diversification cannot be easily achieved in countries which have rigid systems of central financing and control. Political, policy and administrative reform may have to precede financial change.

To a large degree, diversification requires the devolution of authority and responsibility. Governments may not be willing to give up control, or to tolerate educational systems run by religious bodies, trade associations or worker groups. New ways of raising revenues require new working relationships between social partners. Lower levels of government, community organisations, and the various training partners have to have a role in defining VET policy and managing resources. Taxing authority and responsibility may have to be given to local authorities (Bray and Lillis, 1988).

Diversification cannot be easily accomplished in a hostile policy environment (Bowles, 1988). Policy must nourish the macroeconomic conditions that make it possible for employers to benefit from training, create incentives to conduct training, and promote the participation of social partners. Governments establish the political and legal framework through which financial support of education is achieved. The policies of governments must

promote the effective use of resources, as well as establish the conditions which encourage broad participation in VET and ensure the equitable distribution of benefits.

To diversify financial resources will mean opening up policy dialogue, assessing the effectiveness of current institutions and practices, broadening participation, creating new forms of VET, changing administrative and management practices, and sharing responsibility and authority. Whether or not governments are willing or able to make these changes will largely determine the extent to which the diversification of financial resources can be achieved.

2. Considering the economy

There is an inexact but important relationship between a country's course of economic development and range of effective financing mechanisms (Middleton and Demsky, 1988). In low income countries government resources are generally limited, but it is difficult to develop financial alternatives to public revenues. The population is poor and industry and its collective bodies are weak (Castro, 1987). In middle income countries there is considerably more potential to diversify financing. Experience indicates that it is possible to establish all forms of VET in middle income countries, but that it is difficult to establish any form in the poorest nations. Sustained development requires stable financial resources.

The level of development as well as the structure and dynamics of the economy vary significantly across developing countries. Individual countries follow very different courses of development. It follows that financing strategies for VET must accommodate the particular pattern of economic development. For this reason, there is no one optimal combination of financing. Most countries need diverse training paths.

However, as economies develop, there is often a corresponding need for the diversification of VET progammes and the formation of closer links with employers. In some countries, economic change and structural adjustment are driving the move to a more diverse financial and training base. As more technologically advanced activities are developed, firms themselves need greater control over the substance and quality of training. Technologically intensive and high value-added production requires more frequent training and retraining tailored to the specifications of the individual firm (Salomé and Charmes, 1988).

3. Form follows financing

To a large extent, the form and the administration and management of VET follow from the pattern of its financing. Training modes are not completely interchangeable with the method of financing. Training systems, however, need to be complementary, not competitive. And it should not be assumed that financing alternatives to public revenues will automatically result in better VET progammes. Inefficiencies, resource limits, and lack of incentives to maintain programme quality also plague progammes supported through other forms of revenues. Nevertheless, the source of funding impacts directly on the kind, character, and quality of the training delivered.

Public revenues are used primarily to finance pre-employment VET, but increasingly pre-service and in-service training for public agencies are also supported. Institutional-based training is the predominate form. In countries where there is little opportunity to obtain pre-employment training, public investment is crucial (McMahon, 1988), and it is theoretically justified because of the benefits which accrue to individuals and society.

The use of payroll levies for financing training agencies has been effective in the initial stage of building national training capacity. The use of payroll levies has been effective in middle-income countries, but less so in low-income countries. Large employers are served better than small ones, and those groups outside the economic mainstream are not served well. Tax rebates and credits have been effective as a way to finance in-service training.

Individual enterprises are encouraged to develop their own training capacity. It is best used for purposes of financing retraining and upgrading, but it is less effective for pre-employment training. It is not effective with small employers, and there are considerable management requirements.

The dual system generally does not reduce the overall tax burden on public revenues, but it considerably broadens the base of support for VET. Employers contribute through apprenticeships. Constructive collaboration between social partners is essential, and appropriate placement opportunities are crucial.

Fees are a versatile means of financing VET, but there are limits on the amount of revenue that can be generated. The most efficient and equitable policy is to use fees along with subsidies. Fees are generally not a good way to finance pre-service training. They are a good way to finance short-term training which leads directly to employment.

Fellowship and loan progammes generally do not work well in developing countries. Vouchers and tuition tax credit systems have been used extensively, but they are potentially a flexible form of financing.

Production for profit is effective on a limited scale. It is particularly effective as a means of financing VET for poor youths, unemployed school-leavers, and disadvantaged adults, and it works best in NGO operated progammes, particularly when modest public support is given. In effective progammes, considerable revenue is generated.

Donor assistance has been effective for all types of VET progammes. However, it is limited, and only certain programme elements are funded. Assistance cycles are also too short. As a consequence, host countries often cannot sustain the investment, and activities yield little long-term benefit. Training quality cannot be sustained. Donor assistance tends to be more effective when capacity-building is the major objective.

C. Expanding opportunity

In all countries government has a stake in the education and training of the work force. The most direct way that public policy is implemented is through funding. However, as we have seen, the effects of different financing alternatives are far from neutral. "They may indeed be one of the main springboards for training policy" (International Labour Conference, 1991, 84). And it is the impact on policy that is a major reason for countries to explore different ways to finance VET. New ways of financing will lead to new ways to train.

Diversification achieves a number of financial objectives. By reducing the dependence on any one source, it helps to ensure long-term financial stability (World Bank, 1991). This is especially true if the various revenue sources are responsive to different political and economic influences. Financial stability, in turn, provides greater assurance that programme quality can be maintained.

Institutions that diversify their finances are obliged to provide new services in response to changing demands. In so doing, they broaden their operational procedures, develop new programming capabilities, and use their training capacity more fully. Changes in instructional mix, class size, space use, and administration can lead to a more effective use of physical resources. This saves money, and allows funds to be used for other purposes (Hultin, 87). The development of new and innovative services may be as important to the long-term survival of the institution as strengthening the financial base. Increased programming capacity and flexibility enables institutions to adapt to an uncertain environment.

Many training progammes respond sluggishly to changes in the level and composition of demand, and thus fail to maximize the output from resources (Castro, n.d.). Diversification helps alleviate this problem by expanding the body of participating groups to include lower levels of government, private associations and enterprises, and various social or-

ganisations. Policy options are broadened, better communication is developed, and competition and responsiveness are enhanced (Tsang, 1989).

Most governments have an interest in equity and equality of educational opportunity. Individually, however, each major way of financing VET has limitations. No one financing method can equitably serve all population groups. Limitations are structural to the financing method as well as a result of the way that policy and administrative procedures are applied. Mounting pressures on educational budgets have made it more difficult to extend opportunity through public revenues. In combination, however, the different ways to finance VET result in greater access. More training is conducted and more groups have access to training. Diversifying the financing of VET may be the single best way to create greater opportunity. In the long run, then, diversifying financing may be the best way not only to improve the responsiveness and quality of training, but also to expand opportunity.

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